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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,369	02/26/2004	Shozo Koyama	AMN-006-003	3406

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EXAMINER	
HAQ, SHAFIQUL	

ART UNIT	PAPER NUMBER
1641	

MAIL DATE	DELIVERY MODE
01/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/786,369	KOYAMA ET AL.	
	Examiner	Art Unit	
	SHAFIQUL HAQ	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *35 and 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *35* is/are rejected.

7)☒ Claim(s) *37* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/25/09 has been entered.

Status of claims

2. Claims 35 and 37 remain in this application and are examined on merits

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 35 and claim 37, as being dependent from claim 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 defines the substitution group twice in the claims, first in lines 9-10 and second in lines 19-23 as follows:

Lines 9-10:

(wherein

R3, R4, R5 and R6 represent independently hydrogen atom; halogen atom; C1-C6 alkyl group; or amidino group; ~~C1-C6 alkoxy~~

Lines 19-23:

one or more of R3, R4, R5 and R6 maybe substituted by one or more of substituents selected from the group consisting of halogen atom, cyano group, protected or non-protected carboxyl group, protected or non-protected hydroxyl group, protected or non-protected amino group.

Therefore, it is unclear what definition applicants are intended for the substitution groups.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 35 is again rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claim is directed to a method for therapy of a cancer in an animal comprising treating cultured cells of said cancer in vitro with a compound of formula 3-a to extinguish the cells, collecting sediment of said treated cultured cells and administering the sediment to said animal.

Specification lacks written descriptive support for a large number of compounds encompassed by the compound of formula 3-a useful for therapy of cancer.

As described in the specification, sediments of extinct cultured cancer cells after treatment with "Yoshixol" (i.e. the compound of claim 35 **wherein all of R_3, R_4, R_5 and R_6 are hydrogen**), when administered into a mice, is shown to slow down the growth of implanted cancer cells and thus improve survival time. As described in the specification, the composition (i.e. sediments of extinct cultured cells recovered after treatment of cancer cell *in vitro* with the compound of formula 3-a) is administered into a mice and then the mice is implanted with cancer cells to show inhibition of growth of the implanted cancer cells. The process as described above is immunotherapy of an animal with cancer cell components extincted with the compound of formula 3-a, for inhibition of cancer cell growth. The only compounds shown to inhibit the growth of implanted cancer cells in the specification is Yoshixol (**wherein all the substitution group R_3, R_4, R_5 and R_6 are all hydrogen**) and the affidavit filed 9/25/09 showed improved inhibition with Yoshixol treated cells {see Fig. 3 of the affidavit which shows substantial inhibitory effect of lysate (non-treatd) on tumor growth} and not a single derivative of Yoshixol have been shown to have this improved inhibitory effect. However, the compound of formula 3-a when substituted with a large number of structurally and functionally divergent substitution groups, provides a large number of structurally and functionally divergent compounds from Yoshixol. Specification does not provide any clear guidance as to what core component of the compounds is actually having activity responsible for the intended function (i.e. extinction of cancer cells wherein the extincted cell sediments

can be used to inject mice to inhibit implanted cancer cell growth). Only example in the specification (and affidavit filed 9/25/09) that provides inhibition of cancer cell growth is with Yoshixol treated sediments of cancer cell, wherein all the substitution group R_3, R_4, R_5 and R_6 are hydrogen and the substitution group hydrogen is not a representative of all the structurally and functionally diverse substitution group such as cyano, halogen, carboxyl, hydroxyl, amido or alkyl as claimed because functional groups halogen, alkyl, amide, cyano, carboxyl and hydroxyl groups are diverse with respect to structure and chemical reactivity and specification does not provide any guidance as to what functional groups would be a representative of substitution group hydrogen having similar reactivity.

Therefore, an artisan in the art would not be able to practice full scope of the invention because an undue experimentation will be required to judge suitability of the representative compounds encompassed by formula 3-a useful for treatment of cancer. Undue experimentation would be required to practice the invention as claimed due to the quantity of experimentation necessary; limited amount of guidance and limited number of working examples in the specification; nature of the invention; state of the prior art; relative skill level of those in the art; predictability or unpredictability in the art; and breadth of the claims. In re Wands, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

Allowable Subject Matter

7. Claim 37 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and amend to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to argument

8. Applicant's arguments, amendments and affidavit filed 9/25/09 have been fully considered and are persuasive to overcome the rejections of claim 37 under 35 USC 112, first paragraph. However, Applicants' amendments, arguments and affidavit are not persuasive to overcome the rejection of claim 35 under 35 USC 112, first paragraph.

Applicants argued that by the amendment and the showing of the 132 declaration show with certainty that Yoshixol treated cells provide inhibition of cancer cell growth in an animal because a clear relationship between Yoshixol treated cells and the desired immunotherapy exists.

Applicants' arguments have been fully considered but are not persuasive because the Examiner maintains that the compound of formula 3-a, as claimed, encompasses a large number of structurally diverse compounds substantially divergent, structurally and functionally from Yoshixol, when substituted with a large number of structurally divergent substitution groups. As for example, as claimed R_6 can be cyano, R_5 can be amidino, R_4 can be alkyl and R_3 can be carboxyl or other combinations, which would provide a

large number of structurally and functionally divergent compounds from Yoshixol, which would be expected to have different chemical reactivity. Chemical structures which are very similar, are presumed to function similarly, whereas chemical structures that are not very similar are not presumed to function similarly and specification does not provide any guidance as to what functional groups (substitution groups) would be a representative of substitution group hydrogen having same or very similar reactivity and would provide structures with same or very similar reactivity.

Specification does not provide any clear guidance as to what core component of the compounds is actually having activity responsible for the intended function. Only example in the specification (and the affidavit of 9/25/09) that provides inhibition of cancer cell growth is with Yoshixol treated sediments of cancer cell, wherein all the substitution group R_3, R_4, R_5 and R_6 are hydrogen and the substitution group hydrogen is not a representative of all the structurally diverse substitution group as claimed because functional groups halogen, amido, alkyl, cyano, carboxyl and hydroxyl are diverse with respect to structure and chemical reactivity.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bystryn (US 5030621, US 5635188, US 6338853 and US 5194384) discloses supernatant of cancer cell culture to immunize a patient in the treatment of cancer.

McCollester (US 4,720,386) discloses disrupted cancer cell material as immunogenic component for immunization for regression of cancer through stimulation of patient's immune response.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shafiqul Haq whose telephone number is 571-272-6103. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Shibuya can be reached on 571-272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shafiqul Haq/
Primary Examiner, Art Unit 1641